



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/608,284	06/27/2003	Desikachari Nadadur	2003P04639US	8534
7590 06/20/2007 Siemens Corporation Attn: Elsa Keller, Legal Administration Intellectual Property Department 170 Wood Avenue South Iselin, NJ 08830			EXAMINER NGUYEN, LE V	
			ART UNIT 2174	PAPER NUMBER
			MAIL DATE 06/20/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/608,284	Applicant(s) NADADUR ET AL.	
	Examiner Le Nguyen	Art Unit 2174	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 3/26/07.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9, 11-20, 22-30 and 32-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11-20, 22-30 and 32-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This communication is responsive to an amendment filed 3/26/07.
2. Claims 1-9, 11-20, 22-30 and 32-36 are pending in this application; and, claims 1, 17 and 27 are independent claims. Claims 1, 17 and 27 have been amended; and, claims 10, 21 and 31 have been cancelled. This action is made Final.
3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

4. Claims 1-5, 9, 11-20, 22-30 and 32-36 are rejected under 35 U.S.C. 102(e) as being anticipated by Geiser et al. ("Geiser") in view of Rafter et al. ("Rafter"), and further in view of Kaufman et al. ("Kaufman").

As per claim 1, although Geiser teaches a method for displaying a medical image, the method comprising displaying a moving medical image of a beating heart in a first display area wherein the medical image of the beating heart comprises a sequence of image frames (col. 16, lines 42-43), Geiser does not explicitly disclose displaying a plurality of image frames of the sequence of image frames of the medical image in a second display area wherein the plurality of image frames are acquired at end-diastolic (ED) and end-systolic (ES) portions of a cycle of the beating heart. Rafter teaches displaying a plurality of image frames of the sequence of image frames of the medical image in a second display area wherein the plurality of image frames are

acquired at end-diastolic (ED) and end-systolic (Abstract; fig. 7A; paragraphs [0089] and [0093]; via selection of elements 761 and 763). It would have been obvious to an artisan at the time of the invention to incorporate the method of Rafter with the method of Geiser given that it is often desirable and useful to observe and compare multiple images of the heart at the same portion of the cardiac cycle for patient evaluation/treatment purposes. However, Rafter and Geiser still do not explicitly disclose first, second and third display areas being simultaneously displayed. Kaufman teaches displaying a medical image in a first display area (figs. 2-6, *element 50*), displaying a plurality of image frames of the medical image in a second display area (figs. 2-6; *plurality of image frames of the medical image 50 with shared scrollbar 58 displayed below 54*) and displaying a data plot in a third display area wherein the first, second, and third display areas are simultaneously displayed (figs. 2-6; *data plot 70*). It would have been obvious to an artisan at the time of the invention to incorporate the method of Kaufman with the method of Rafter and Geiser for ease of monitoring a patient's condition.

As per claim 2, the modified Geiser teaches a method for displaying a medical image, the method wherein a size of the image frames displayed in the second display area is smaller than a size of the medical image displayed in the first display area (Kaufman: figs. 2-6).

As per claim 3, the modified Geiser teaches a method for displaying a medical image comprising (a) receiving a user selection in one of the first, second, and third display areas, and (b) altering a display of at least one of the first, second, and third

display areas in response to the received user selection (Kaufman: figs. 2-6; section [0085]; *user can scroll through the image frames by selecting scrollbar 58 until marker 76 in field 70 is over the desire portion*).

As per claim 4, the modified Geiser teaches a method for displaying a medical image wherein (a) comprises receiving a selection of a point on the data plot in the third display area (Kaufman: figs. 2-6; section [0070]; *selection of a point on the data plot via highlighting*), and (b) comprises displaying an indicator at the point selected on the data plot in the third display area (Kaufman: figs. 2-6; section [0085]; *marker/indicator 76*), displaying an image frame in the first display area corresponding to the point selected on the data plot (Kaufman: section [0070]; *image frame 50 correspond to the point highlighted/selected on the ECG field/data plot*) and scrolling the plurality of image frames displayed in the second display area to the image frame corresponding to the point selected on the data plot (Kaufman: figs. 2-6; section [0085]; *scrolling through the image frames to the image frame that corresponds to the point selected on the data plot via selection of scrollbar 58 until marker 76 in field 70 is over the desire portion*).

As per claim 5, the modified Geiser teaches a method for displaying a medical image wherein (a) comprises receiving a selection of an image frame displayed in the second display area (section [0063]; *selection of an image frame such as image frame 56 via scrollbar 61*), and (b) comprise displaying an indicator at a point on the data plot in the third display area corresponding to the selected image frame (Kaufman: figs. 2-6; section [0085];

a user selects an image frame such as image frame 56 by scrolling through the image frames using scrollbar 61 until highlight/indicator 76 is over the desire point on field/data plot 70 so that the point corresponds to the selected image) and displaying the selected image frame in the first display area (Kaufman: figs. 2-6; section [0070]; displaying highlighted/selected image frame in element 50).

As per claim 9, the modified Geiser teaches a method for displaying a medical image comprising displaying a menu in a fourth display area (Kaufman: section [0061]).

As per claim 11, the modified Geiser teaches a method for displaying a medical image wherein the medical image comprises a live image (Kaufman: section [0057]; *images are displayed to the user in real time*).

As per claim 12, the modified Geiser teaches a method for displaying a medical image wherein the medical image comprises a recalled image (Kaufman: section [0063]; *an image such as image frame 56 can be recalled via scrollbar 61*).

As per claim 13, the modified Geiser teaches a method for displaying a medical image wherein the medical image comprises an ultrasound image (Kaufman: section [0044]).

As per claim 14, the modified Geiser teaches a method for displaying a medical image wherein the data plot comprises a graph of at least one of the following: end-diastolic volume, end-systolic volume, ejection fraction, stroke volume, stroke index, cardiac output, and cardiac index (Kaufman: sections [0042] and [0069]; *ECG field 70 displays a patient's ECG signal that was taken during the imaging of the patient's heart*

wherein an ECG signal has a plurality of cardiac cycles including images obtained during systole and diastole).

As per claim 15, the modified Geiser teaches a method for displaying a medical image wherein the first, second, and third display areas are displayed on a medical diagnostic image acquisition system (Kaufman: sections [0003], [0044] and [0087]; *e.g. ultrasound imaging system*).

As per claim 16, the modified Geiser teaches a method for displaying a medical image wherein the first, second, and third display areas are displayed on an image review system (Kaufman: section [0087]; *e.g. a computer other than the medical diagnostic image acquisition system that can recall images*).

Claims 17-20, in combination, are similar in scope to the combination of claims 2 and 5 and are therefore rejected under similar rationale.

Claims 22 and 32 individually are similar in scope to claim 11 and are therefore rejected under similar rationale.

Claims 23 and 33 individually are similar in scope to claim 12 and are therefore rejected under similar rationale.

Claims 24 and 34 individually are similar in scope to claim 13 and are therefore rejected under similar rationale.

Claims 25 and 35 individually are similar in scope to claim 15 and are therefore rejected under similar rationale.

Claims 26 and 36 individually are similar in scope to claim 16 and are therefore rejected under similar rationale.

Claims 27-30, in combination, are similar in scope to the combination of claims 2 and 5 and are therefore rejected under similar rationale.

5. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Geiser et al. ("Geiser") in view of Rafter et al. ("Rafter") and Kaufman et al. ("Kaufman") as applied to claim 3, and further in view of Gaddipati et al. ("Gaddipati").

As per claims 6-8, although the modified Geiser teaches a method for displaying a medical image wherein (a) comprises receiving a selection of the medical image in the first display area (Kaufman: sections [0070] and [0073]), the modified Geiser does not explicitly disclose pausing the display of the medical image or suspending a medical image acquisition operation. Gaddipati teaches pausing the display of the medical image or suspending a medical image acquisition operation (col. 8, lines 52-63). It would have been obvious to an artisan at the time of the invention to incorporate the method of Gaddipati with the method of the modified Geiser in order to enable an operator control over the session or procedure performed by the application.

Response to Arguments

6. Applicant's arguments with respect to claims 1, 17 and 27 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Paternostro (US 2002/0161302) teach methods of screening for genes and agents affecting cardiac function.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Inquires

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Lê Nguyen whose telephone number is **(571) 272-4068**. The examiner can normally be reached on Monday - Friday from 7:00 am to 3:30 pm (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kristine Kincaid, can be reached at (571) 272-4063.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LVN
Patent Examiner
June 3, 2007

Kristine Kincaid
KRISTINE KINCAID
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100